

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please amend the claims as follows:

1. (Currently Amended) A method ~~comprising of encoding a TRAU frame for a speech signal having a plurality of transport channels, the method including the steps of:~~
 - [[a)]]determining a coding type for [[the]] a speech signal via a transcoder and rate adaptor unit (TRAU);
 - [[b)]]determining a set of bits associated with each transport channel of at least two transport channels corresponding to the speech signal via the TRAU;
 - [[c)]]determining a priority for each set of bits associated with each transport channel via the TRAU; and
 - [[d)]]inserting into a TRAU frame, via the TRAU, [[the]] each set of bits according to the determined priority of each set of bits, associated with the transport channel of highest priority; and
 - e) ~~repeating the inserting step sequentially for each transport channel in order of priority.~~
2. (Currently Amended) A method according to claim 1, further comprising:
~~including the steps of:~~
 - [[a)]]determining [[any]] if error checking is required for one or more of the at least two transport channels associated with each transport channel;
 - [[b)]]computing [[any]] error check bits for each transport channel that requires error checking; and
 - e) ~~the step of inserting further comprising~~ inserting [[any]] into the TRAU frame the computed error check bits associated with [[such]] each transport channel that requires error checking after the set of bits associated with that channel.

3. (Currently Amended) A method according to claim 1, further comprising ~~including the step of~~ inserting control bits into said TRAU frame.
4. (Currently Amended) A method according to claim 3, wherein the control bits are inserted ~~[[in]]~~ at a reserved location in the TRAU frame.
5. (Currently Amended) A method according to claim 3, wherein ~~in which~~ the control bits include a transport format combination indicator.
6. (Currently Amended) A method according to claim 2, wherein the at least two transport channels comprise ~~in which the speech signal includes two transport channels comprising~~ a set of class A bits associated with a first transport channel and a set of class B bits associated with a second transport channel, wherein at least a portion of the class A bits comprises a set of cyclic redundancy check bits ~~[[being]]~~ associated with a cyclic redundancy check, ~~wherein a set of cyclic redundancy check bits are compiled in dependence on all the class A bits, and wherein~~ the TRAU frame includes ~~including~~, in sequence, the set of class A bits, the set of cyclic redundancy check bits, and the set of Class B bits.
7. (Currently Amended) A method according to claim 6, wherein the TRAU frame comprises an initial set of control bits.
8. (Currently Amended) A method according to claim 7, wherein the set of cyclic redundancy bits are compiled based ~~in further dependence~~ on at least one control bit.
9. (Currently Amended) A method comprising ~~of decoding a received TRAU frame comprising sets of bits corresponding to a plurality of transport channels for a speech signal ordered in sequence in accordance with a priority associated with said channels, the method including the steps of:~~
 - [[a]] determining a coding type for ~~[[the]]~~ a speech signal via a converter;
 - [[b]] locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type; and

[[c]] decoding the plurality of transport channels based on the corresponding set of bits in dependence on the recovered data bits in accordance with the determined coding type.

10. (Currently Amended) A method according to claim 9, further comprising the steps of:

[[a]] locating [[any]] error check bits associated with [[each]] a first transport channel of the plurality of transport channels; and

~~b) in dependence on the presence of~~ based on the located error check[[ing]] bits, error checking [[each]] the first transport channel.

11. (Currently Amended) A method according to claim 9, further comprising wherein ~~the method includes the step of~~ locating a set of control bits, said control bits including an indication of the coding type of the speech signal.

12. (Currently Amended) A method according to claim 11, wherein said set of control bits includes a transport format combination identifier.

13.-37. (Canceled)

38. (New) A method according to claim 1, wherein the step of inserting comprises inserting a higher priority set of bits into the TRAU frame before inserting a lower priority set of bits into the TRAU frame.

39. (New) A method according to claim 1, wherein the TRAU frame is a generic TRAU frame.

40. (New) A method according to claim 1, further comprising encoding the speech signal to generate a plurality of speech coefficients.

41. (New) A method according to claim 3, wherein the control bits comprise at least one of an indication of a number of transport channels included in the TRAU frame, a location in the TRAU frame of each set of bits associated with each transport channel, an indication of if

error checking applies to the sets of bits inserted in the TRAU frame, and a location in the TRAU frame of error checking information if error checking applies.

42. (New) A method according to claim 5, wherein the transport format combination indicator indicates the coding type.

43. (New) A method according to claim 1, wherein the TRAU frame is configured via a configuration message used to configure a flexible layer one protocol.

44. (New) A method according to claim 9, further comprising receiving a generic TRAU frame at a mobile station.

45. (New) A method according to claim 44, wherein the step of locating comprises locating the set of bits within the generic TRAU frame.

46. (New) A method according to claim 9, wherein the step of decoding comprises mapping each located set of bits into a required format associated with the coding type.

47. (New) A transcoder and rate adaptor unit (TRAU) comprising:
a converter configured to:

determine a coding type for a speech signal;
determine a set of bits associated with each transport channel of a plurality of transport channels of the speech signal;
determine a priority for each set of bits; and
insert into a TRAU frame the sets of bits associated with each transport channel of the plurality of transport channels according to the determined priority of each set of bits.

48. (New) A TRAU according to claim 47, wherein the TRAU frame is a generic TRAU frame.

49. (New) A TRAU according to claim 47, further comprising a codec configured to encode a signal.

50. (New) A TRAU according to claim 49, wherein the codec is further configured to generate a plurality of speech coefficients.

51. (New) A TRAU according to claim 47, wherein the converter is further configured to insert a higher priority set of bits into the TRAU frame before inserting a lower priority set of bits into the TRAU frame.

52. (New) A TRAU according to claim 47, wherein the converter is further configured to:

- determine if error checking is required for a transport channel of the at least two transport channels;
- compute error check bits for each transport channel that requires error checking;
- and
- insert in the TRAU frame the computed error check bits associated with each transport channel that requires error checking.

53. (New) A TRAU according to claim 47, wherein the converter is further configured to insert control bits into the TRAU frame.

54. (New) A TRAU according to claim 53, wherein the control bits are inserted at a reserved location in the TRAU frame.

55. (New) A TRAU according to claim 53, wherein the control bits include a transport format combination indicator.

56. (New) A TRAU according to claim 55, wherein the transport format combination indicator indicates the coding type.

57. (New) A TRAU according to claim 53, wherein the control bits comprise at least one of an indication of a number of transport channels included in the TRAU frame, a location in the TRAU frame of the set of bits associated with each transport channel, an indication of if error checking applies to the sets of bits of the TRAU frame, and a location in the TRAU frame of error checking information if error checking applies.

58. (New) A TRAU according to claim 47, wherein the plurality of transport channels comprise a set of class A bits associated with a first transport channel and a set of class B bits associated with a second transport channel, wherein at least a portion of the class A bits comprises a set of cyclic redundancy check bits associated with a cyclic redundancy check, and wherein the TRAU frame includes, in sequence, the set of class A bits, the set of cyclic redundancy check bits, and the set of Class B bits.

59. (New) A TRAU according to claim 58, wherein the TRAU frame comprises an initial set of control bits.

60. (New) A TRAU according to claim 59, wherein the set of cyclic redundancy bits are compiled based on at least one control bit.

61. (New) A transcoder and rate adaptor unit (TRAU) comprising:
a converter configured to
determine a coding type for the speech signal;
locate a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type; and
decode the plurality of transport channels based on the corresponding set of bits in accordance with the determined coding type.

62. (New) A TRAU according to claim 61, wherein the converter is further configured to:

locate error check bits associated with a first transport channel of the plurality of transport channels; and

based on the located error check bits, error check the first transport channel.

63. (New) A TRAU according to claim 61, wherein the converter is further configured to locate a set of control bits, wherein the set of control bits include an indication of the coding type of the speech signal.

64. (New) A TRAU according to claim 63, wherein the set of control bits includes a transport format combination identifier.

65. (New) A TRAU according to claim 61, wherein the TRAU is further configured to receive a generic TRAU frame.

66. (New) A TRAU according to claim 65, wherein converter is configured to locate each set of bits within the generic TRAU frame.

67. (New) A TRAU according to claim 61, wherein the converter is further configured to map each located set of bits into a required format associated with the coding type.

68. (New) A tangible computer-readable medium having stored thereon, computer-executable instructions that, if executed by a computing device, cause the computing device to perform a method comprising:

determining a coding type for a speech signal;

determining a set of bits associated with each transport channel of at least two transport channels corresponding to the speech signal;

determining a priority for each set of bits associated with each transport channel;

and

inserting each set of bits into a transcoder and rate adaptor unit (TRAU) frame according to the determined priority of each set of bits.

69. (New) A tangible computer-readable medium according to claim 68, wherein the TRAU frame is a generic TRAU frame.

70. (New) A tangible computer-readable medium according to claim 68, wherein the step of inserting further comprises inserting a higher priority set of bits into the TRAU frame before inserting a lower priority set of bits into the TRAU frame.

71. (New) A tangible computer-readable medium according to claim 68, wherein the instructions cause the computing device to perform a method further comprising:
determining if error checking is required for a transport channel of the at least two transport channels;
computing error check bits for each transport channel that requires error checking;
and
inserting in the TRAU frame the computed error check bits associated with each transport channel that requires error checking.

72. (New) A tangible computer-readable medium having stored thereon, computer-executable instructions that, if executed by a computing device, cause the computing device to perform a method comprising:
determining a coding type for a speech signal;
locating a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type; and
decoding the plurality of transport channels based on the corresponding set of bits in accordance with the determined coding type.

73. (New) A tangible computer-readable medium according to claim 72, wherein the instructions cause the computing device to perform a method further comprising:
locating error check bits associated with a first transport channel of the plurality of transport channels; and
based on the located error check bits, error checking the first transport channel.

74. (New) A tangible computer-readable medium according to claim 72, wherein the instructions cause the computing device to perform a method further comprising receiving a generic transcoder and rate adaptor unit (TRAU) frame.

75. (New) A tangible computer-readable medium according to claim 74, wherein the instructions cause the computing device to perform a method further comprising locating each set of bits within the generic TRAU frame.

76. (New) A tangible computer-readable medium according to claim 72, wherein the instructions cause the computing device to perform a method further comprising mapping each located set of bits into a required format associated with the coding type.

77. (New) A network element comprising:
a transcoder and rate adaptor unit (TRAU) configured to:
determine a coding type for a speech signal;
determine a set of bits associated with each transport channel of a plurality of transport channels of the speech signal;
determine a priority for each set of bits; and
insert into a generic TRAU frame the sets of bits associated with each transport channel of the plurality of transport channels according to the determined priority of each set of bits.